

## **The Upstream and Downstream Agricultural Philosophy and Ethics, A Comprehensive Perspective**

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### **ABSTRACT**

Agriculture is one of the most valuable and remarkable practices of technology system that has been generated from old secondary civilization leap after hunting and gathering steps of evolution in human culture. The practices has been developed and integrated with all recent progress in the human civilization. It is an indispensable axiological practices that can not be neglected or avoided for the human existence, because this is the only way to provide all human need in regard with the accomplishment of enough food, logging, and textiles. But there are the facts of increase number of unwanted impact due to the technology that contributed to the decrease quality of biosphere. In this paper, I raised a formulation to consider the agriculture as an ambiguous axiological inevitability, which has both advantages and disadvantages for the biospheres sustainability. The disadvantage ones have never fairly discussed, except at most recent time, in which, sustainable agriculture has a momentum to openly communicated in the fast growing challenge to find out the safely agriculture practices. This paper discusses further the comprehensive perspective of the existence of sustainable agriculture in the view of both philosophy and more specific ethical philosophy, mostly under the term of pragmatism and utilitarianism.

**Key words:** Agriculture, ambiguous axiological practices, biospheres sustainability, ethical philosophy, indispensable, sustainable agriculture

### **INTRODUCTION**

Agriculture is one of the most valuable and remarkable practices of technology system to cultivate a demanded crop plant and to care for a domesticated animal. All efforts have been directed to accomplish the need for food, and other materials required by human desire. This system has been created since old secondary civilization leap, (nearly 12.000 years ago, according to Burkhardt et al, 2005), after hunting and gathering steps of evolution in human culture.

Nowadays, the practices has been so developed and integrated with all recent progress in the human civilization. As a results, the modern agriculture now is more fully elaborated with automatic machine energy as a replacement of manual muscular one, sophisticated planning involving weather forecast information, as well as GIS. In term of safety and efficiency, the practices also require a safety improvements and procedures.

Agriculture is an implication of life science, mechanical engineering, hydrology and mathematics, and most of modern science such as information technology. As an applied science, the basic application of crop plantation, and animal farming are directed for the production agriculture. This procedure system unquestionably have a noble goal to fulfill the need for food, wood, textile and medicinal herbs, and other organic chemical that are commercially needed and therefore harvested from plant and animals. The practice is the only way to provide all the human needs. This is because the practices could increase number of both yield quality and quantity, as it is being compared with the one gained via natural ecology in the biospheres (as our ancestor proceeded during the era of hunting and gathering civilization). But on the other hand, there is the fact that production agriculture also has raised the environmental costs and disadvantages. There are increase numbers of unwanted impacts due to the technology that contributed to the decrease quality of biosphere. It is therefore, production agriculture could be deeply and critically reevaluate at the level of philosophy, mostly at axiological view, and morality.

In this paper, I raised a formulation to consider the agriculture as an ambiguous axiological inevitability, which has both advantages and disadvantages for the biospheres sustainability. The disadvantage ones have never fairly discussed, except at most recent time, in which, sustainable agriculture has a momentum to openly communicated in the fast growing challenge to find out the safely agriculture practices.

This paper discuss further the comprehensive perspective of the existence of sustainable agriculture in the view of both philosophy and more specific ethical philosophy, mostly under the term of pragmatism and utilitarianism.

## **MATERIALS AND METHODS**

The subject materials of this studies are the papers that discourses on agricultural philosophy and ethics. All the materials are the sources for pointing the subject of a better practical agriculture analytically and critically in order to find out the more understanding on how human beings are practicing the safety and more sustainable agriculture.

## **RESULTS AND DISCUSSION**

### **Upstream and Downstream Agriculture**

Comprehensively, the agricultural practices have spanned from upstream to downstream steps that includes land use preparation, seedling preparation, planting the crop seedling into the soil, growth and development of the crop into harvest, harvesting, collecting and depositing in a storehouse, manufacturing and packaging, distribution, and eventually consumption (Mepham, 2012). The practices also include crop agriculture, horticulture, forestry, aquaculture, fishery, animal husbandry, and others. The practices comprise experts who accomplish in the research, farmers, governmental biocracy, non governmental organization pressure group, technologist, and scientists.

The use of technology and tight procedure are applied in order to optimize the results, and to prevent the process from any annoyance that disturb the harvest of the yield, and to prevent the product from animal pest and fungi. In other words, agriculture struggled to gain success against predators and all possible competitor that fight to acquire for the agricultural yields. The technology involvement include tools that support the manual work of human and animal muscle, triggered machinery tools, manual as well as machine for irrigation and water management, development of tools for turning and maintaining top soil.

The procedures implicate the multifaceted input and impacts. There are various input for the practices, one of the most importance's are the chemicals input to the agricultural processes that incorporate the use of water irrigation, fertilizers, pesticides, herbicides, preservatives, and also the unrenewable chemical energy (mostly petroleum gasoline, and similar chemical energy usage) and or renewable chemical energy (Pretty, 2008). The chemical input would consequentially produces a serious unwanted impact, and mostly hazardous one. The pollution give arise a diverse causes covering from light influence, such as irritation to skin, respiratory tracts, to heavy results, i.e. cancer development, heavy toxic for many different living creatures. The different effect depends on different chemical, time duration, and the entity numbers of the chemical.

As a results, all the complicated techniques also create the negative side effect of agriculture. And inappropriately, the effect was situated or located outside of the yield as external cost that has to be accomplished by their surrounding or environment, and known to be the environmental damage, or under different name as pollution, toxicity hazard, and such kind of catastrophes.

### **Agriculture, from the Philosophy Point of View**

It is therefore, the agricultural practices at one hand are indispensable axiological practices that can not be neglected or avoided for the human existence. The practices on the other hand are also disastrous for human and even all living things. Let us consider agriculture as a product of scientific application that in general term is examined as the value of scientific product discuss in the axiology of agriculture. Suriasumantri (1990) quoted the statement of Betrand Russel, that at axiological step, science (includes life science for agriculture) is in the period of manipulation in order to controlling and directing the natural processes and eventually transforming into the technology (agriculture). At

At this point, the implementation does not only need the technical aspect of the technology, but also includes the subjective value of human being that has to be validated at the level of ethics, moral conduct, and human responsibility. Under the discourse, the value of agriculture is ambiguous, because the axiological values have both advantages and disadvantages for human beings and the biospheres sustainability.

The agricultural advantages are situated on the fulfillment of the human need for food from crops, fisheries and animal husbandry, wood, fibers, and almost chemical herbal product (primary and secondary metabolite chemicals) from horticulture and forestry.

The disadvantage ones have never fairly discussed, except at most recent time, in which, sustainable agriculture has a momentum to openly communicated in the fast growing challenge to find out the safely agriculture practices. The disadvantages of agriculture comprise the farming fatigueless due to intensive preparation of land use for the agriculture, exhaustion of fresh water resources, decrease number of biodiversity surrounding the agriculture land uses, and increase number of marginalization for subsistent farmer (Kesavan and Swaminathan, 2008). Another extra effect or side effects of agriculture are the imbalance distribution of mass agriculture production, depletion of environment due to the intensive use of harmful agrochemical, and the abuse of animal in the intensive practices (Mepham, 2012); also Grimm, (w/o year) pronounced the issues in regard with the agricultural ethics are animal well fare and livestock husbandry, patenting intellectual property in agriculture, and ethical issue in agriculture research. FAO (2001) affirmed the disregard of the universal right to food in agriculture belongs to unethical act.

In the axiology discourses, once human acquire the benefit from the technology he applies, he would never be nulling the disadvantage ones. In order to minimize the difficulty in agriculture, and at the same time to increase the benefit of agriculture optimally, we have to tightly multiply the implementation of technically approach based in agriculture, and non technically approach of technology. The improvement at technical aspect point of view is the scientific procedures that have to be proceeded in order to allow the natural law in the methods. While the non technical aspect merely depends on the appliance of human value, morality and human responsibility (O'Hear, 1989; Suriasumantri, 1990; Wilardjo, 1981).

The technical overcome has to be found in the further laboratory and field experiment research, and the results would be employed in the further improvement procedures for the better production agriculture. The non technical problem solving would only be the subject of further ethical concern. In these areas, philosophical and especially ethical debates have to be arisen from revolutionary paradigmatic challenging that covering the discussion under the moral value, and human responsibility consideration on the use of harmful pesticide and herbicide, the use of biotechnologically modified seeds, soil conservations, etc. (James, 2005).

All the moral examination on the production agricultural practice come into the conclusions on the necessity of paradigm alteration from the production agriculture to sustainable agriculture (Chrispeels and Mandoli, 2003; Kesavan and Swaminathan, 2008). The paradigm of production agriculture is highlighting on how the practice would results in more efficient and effective technology, while the sustainable agriculture accentuate on how the practice give the benefits for recent generations, as well as the future generation. To have a brief picture on this paradigm shift, the Table 1 summarizes it. Under the sustainable agriculture, all the steps and procedures in regard with the agricultural practices have to follow the implementation of the paradigm.

Table 1. The summary of paradigm shift from production agriculture to sustainable agriculture

No	The production agriculture	The sustainable agriculture
1	Commodity centered	Integrated natural resources and management centered
2	To ensure the production/yield/harvest	To ensure the production as well as ecological carrying capacity
3	For short term purpose	For long term purpose
4	Laboratory based research and development	Participatory based research and development
5	Only consider the quality and quantity of mass production	Also the involvement of marginal and resources farm families

(Kesavan and Swaminathan, 2008; and other sources)

### **Agriculture, at the Ethics Point of View**

Ethics issue agriculture is a philosophy of moral assessment on the agricultural practices (Comstock, 2015; Grimm, 2014; ). The review itself aimed to find out the basis moral integrity on the traditions that have been implemented so far in our human civilization. The study contains the intervention of human hand of whether it is against nature or in harmony with it. The study also discuss on how the practices is being affirmed ethically.

The basic ethical appraisal is rooted in the recognition of three general basic theory of ethics, i.e. deontology (theory of the nature of duty, postulated causes), theory of nobility , and teleology (theory of purpose). But at more practical, most of the moral evaluation in agriculture is based on the consideration of whether the practice contains more benefit rather than costly disadvantage (Thompson, 1988). The category for the study belongs to utilitarianism (pragmatically view of teleology). So far, the utilitarianism calculated the moral responsibility in agriculture policy on the basis of the balance between cost and benefit analysis. The weakness of this theory lies on the fact that it neglects the comprehensive point of view of the cost and benefit balance. It is because the basic value of the theory is the strong anthropocentrism (that belongs to shallow ecology based environmental moral principles, or even barely immoral one, since it is eliminating the non human benefit). The strong anthropocentrism calculated the benefit in the sense of his superiority against non human creature.

In contrast to that, the benefits of agriculture have to contain the wider sense of it, i.e. ecological advantage as well as economical purpose alone. Under the extensive value of the advantages, the environmental profit, and long-term revenue will also be put into account. The category of the environmental ethics that embrace the center of benefit for the wider emphasize including non human profit, and ecological sustainability is described as biocentrism, ecocentrism, or deep ecology based environmental ethics. However, since the proprietor and the subject of the ethics is human being, the ecocentrism is rather inappropriate when addressing the prerequisite or subject of the ethics. It is therefore, this paper will follow the argument of Norton (1984) when he mentioned the weak anthropocentrism in addressing the awareness of our human notion on the essential need to one step modesting the understanding our (human existence) that will not be human exclusive orientation in gaining the life benefit from agriculture performance.

Consequently, there is no doubt that agriculture system - in the term of ethical philosophy - is required to follow the weak anthropocentrism principles (Norton, 1984). Under this principles, the goal of agriculture, is not simply for the human oriented selfishness, or human supremacy, or human exceptionalism. But, again, the norms of human profit would only be appreciated in the wisdom of ecologically sustainable advantages.

Under the weak anthropocentrism based environmental ethics, one might further find pragmatism as the further step forward understanding the implementation of environmental ethics. Here, the approach accentuation is the practical application that emphasizes the context, and favor a case-based approach in the attempt for discovering a solution for a better agriculture practices (Minter *et al.*, 2004; and Tuminello, 2014).

### **The implementation of sustainable agriculture**

Currently, there are books published that promote the way the implementation (Gezelius and Raakjaer, 2008; Bowman, 2009; Peshin and Pimentel, 2014; Obe, 2004). The principles, strategies and models of these practices have been discussed (Kesavan and Swaminathan, 2008). The basic principles that more directing to more sustainable agro ecosystems are as the followings: to increase the efficient use of water and nutrients, to maintain the soil protection throughout the year, to increase cultivation in a manner that consistent with effective weed control, to increase or keep maintaining the diversify on farming enterprise and to decrease agronomic and economic risk (Menalled *et al.*, 2008). Basic important aspects of the practical sustainable agriculture are the followings (Pretty, 2008):

1. It integrates biological processes with ecological one, mostly in the nutrient cycling, nitrogen fixation, soil regeneration, allelopathy, competition, predation and parasitism into food production processes,
2. It minimizes the use of those non-renewable inputs that is harmful for to the environment or to the health of farmers and consumers,

3. It might increase the productive use of the knowledge and skills of farmers, thus improving their self-reliance and substituting human capital for costly external inputs, and
4. It makes productive use of people's collective capacities to work together to solve common agricultural and natural resource problems, such as for pest, watershed, irrigation, forest and credit management

## CONCLUSION

When the practice of agriculture is only being valued as a technical approach that only requires the need of technological and procedural aspects, then ones will not find the basic mistake of human subjective purpose. Here, therefore, the tradition is being criticized from the philosophy point of view, and mostly ethical vision to deliberately shift from the paradigm of production agriculture to sustainable agriculture that has a strong foundation in agriculture axiology, and ethical agriculture. The shifting paradigm should follow the pragmatism and weak anthropocentrism based implementation program.

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